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IN THE
Supreme Court of the United States
OCTOBER TERM, 1995

SHOKETSU KINZOKU KOGYO KABUSHIKI CO., LTD.
a/k/a SMC CORPORATION and SMC PNEMATICS, INC.,

Petitioners,

v.

FESTO CORPORATION,

Respondent.

On Petition for a Writ of Certiorari to the United States Court of Appeals for the Federal Circuit

PETITION FOR A WRIT OF CERTIORARI

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QUESTIONS PRESENTED FOR REVIEW

1. In a patent case, can the statutory requirement for patent claims (35 U.S.C. §112, ¶2) and the statutory restriction for correcting them (35 U.S.C. §251, ¶4) be nullified by the judicially created doctrine of equivalents?

(similar to the question currently being considered in *Hilton Davis*, No. 95-728)

2. Is the constitutional right to a jury trial in a patent case preserved if all issues are predecided by a special master in a first trial with a first decision which is then considered for correctness by a jury in a second trial?

(related to the question currently being considered in *Markman*, No. 95-26)

LIST OF PARTIES

All parent companies and nonwholly owned subsidiaries of SMC Corp. and SMC Pneumatics, Inc. are set forth in the caption of the case.

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CITATIONS OF THE OFFICIAL AND UNOFFICIAL REPORTS

The citation for the Federal Circuit's decision is *Festo Corp. v. SMC Corp.*, 72 F.3d 857 (Fed. Cir. 1995).

STATEMENT OF THE BASIS FOR JURISDICTION IN THIS COURT

The judgment sought to be reviewed was entered on December 14, 1995.

A petition for rehearing was denied (and a suggestion for rehearing in banc was declined) on March 6, 1996.

The statutory provision believed to confer on this Court jurisdiction to review on a writ of certiorari the judgment in question is 28 U.S.C. §1254(1).

THE CONSTITUTIONAL PROVISIONS AND STATUTES INVOLVED IN THE CASE

I. The Doctrine of Equivalents Issue

Article 1, section 8, clause 8 of the Constitution provides

> To promote the Progress of Science and useful Arts, by securing for limited Times to Authors and Inventors the exclusive Right to their Respective Writings and Discoveries

35 U.S.C. §112, ¶2 provides

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

35 U.S.C. §251, ¶4 provides

> No reissued patent shall be granted enlarging the scope of the claims of the original patent unless applied for within two years from the grant of the original patent.

II. The Jury Trial Issue

The Seventh Amendment to the Constitution provides

> In Suits at common law, where the value in controversy shall exceed twenty dollars, the right of trial by jury shall be preserved, and no fact tried by a jury, shall be otherwise reexamined in any Court of the United States, than according to the rules of the common law.

STATEMENT OF THE CASE

I. Introduction

Review of a judgment of the United States Court of Appeals for the Federal Circuit is sought. The basis for federal jurisdiction in the court of first instance is 28 U.S.C. §1295(a)(1) and 28 U.S.C. §1338(a).

This jury patent infringement action (filed in 1988) involves two patents - a Stoll patent (United States patent 4,354,125) and a Carroll patent (United States patent 3,779,401). Both patents were asserted to be infringed under the doctrine of equivalents.

The district court (Judge Mazzone of the Boston district court) ordered a full trial before a special master. The trial was held in 1992 (11 trial days, 2000 page trial transcript) and the master (a New York patent attorney) issued a 68 page report in 1993 deciding all issues. Although he decided that the Stoll patent was not infringed as a matter of law and that summary judgment should be granted to SMC, he decided a number of other issues against SMC.

SMC then moved for entry of summary judgment with respect to the Stoll patent. However, Judge Saris (who had replaced Judge Mazzone) denied the motion and ordered a second trial (before a jury). Over SMC's numerous objections, Judge Saris admitted the master's report into evidence and it was heavily relied upon by Festo since, with the exception of the one issue noted above, the master had decided a number of other issues in Festo's favor. Further, also over SMC's repeated objections, Judge Saris provided a copy of the report for each juror rather than reading it to the jury as restricted by Fed. R.

Civ. P. 53(e)(3). With copies of the report during deliberations, the jury took less than one hour to find for Festo.

Judge Saris summarily denied without opinion SMC's post trial motion for judgment as a matter of law with respect to the doctrine of equivalents. Judge Saris had previously granted summary judgment of doctrine of equivalents infringement with respect to the Carroll patent. The Federal Circuit affirmed.

II. Relationship of the Questions Presented to Cases Currently Pending Before the Court

The question presented for review with respect to the doctrine of equivalents is substantively the same as that currently under consideration by this Court in *Hilton Davis Chemical Co. v. Warner-Jenkinson Co., Inc.*, 62 F.3d 1512 (Fed. Cir. 1995), *cert. granted*, 64 U.S.L.W. 3570 (U.S. Feb. 26, 1996) (No. 95-728). From telephonic communications with Court personnel, it is believed that *Hilton Davis* will be argued next term. For the reasons set forth in greater detail *infra*, since (1) revision of the doctrine of equivalents is the most important question before the patent bar at the present time, (2) this Court has in the past decided a patent law question of fundamental importance by granting certiorari in more than one case so that a few cases with differing fact situations can be heard together and (3) this case presents an egregious example of the use of the doctrine of equivalents to nullify statutory patent law, certiorari should be granted to permit this case and *Hilton Davis* to be heard at the same time so that this Court will have at least one fact situation to illustrate an inappropriate application of the doctrine of equivalents.

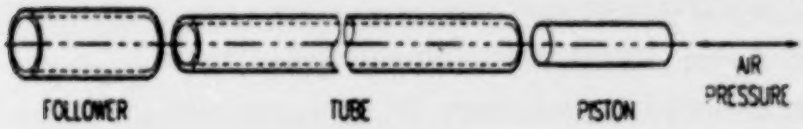
With respect to the jury trial question presented for review, a closely related issue was heard earlier by this Court in

Markman v. Westview Instruments, Inc., 52 F.3d 967 (Fed. Cir.), *cert. granted*, 116 S.Ct. 40 (1995). *Markman* was argued on January 8 and the decision is currently pending. In *Markman*, the issue is the role of juries in patent cases and, more particularly, whether a court rather than a jury should resolve disputed issues of fact concerning the meaning of patent claims. The Federal Circuit held that courts rather than juries should resolve disputed issues of fact as long as they relate to the meaning of patent claims. The Federal Circuit's ruling in this case is even more pervasive than in *Markman* in reducing the role of juries in patent cases. More particularly, the Federal Circuit held that reduction of the jury's role in a patent case is not limited to the interpretation of patent claims but extends to the entire case, i.e., juries can be denied the right to decide any matter *ab initio* and it is sufficient to have a special master decide the entire case as long as a jury can decide whether the master was right or wrong. Not only is this a plain violation of the fundamental and constitutional right to trial by jury, it is extremely onerous and wasteful since it requires that patent cases, which are notoriously expensive to try, be tried in full before a special master and then tried again before a jury.

III. The Doctrine of Equivalents Issue

A rodless cylinder is a common pneumatic industrial tool used primarily in factories and other work environments to move an article a short distance from one point to another. A rodless cylinder has three main components in the general shape of three concentric cylinders. First, there is an inner member ("piston"). Second, there is a tube ("tube") in which the piston is moved either to the right or to the left under the force of air pressure. Third, there is an outer member ("follower") which encircles the

tube and which will move when the piston is moved (hence the term follower) as a result of a magnetic attraction between the piston and the follower, both of which have magnets mounted therein for this purpose. The article to be moved is attached to the follower. Thus, a burst of air pressure at one end of the tube will move the piston - causing movement of the follower - causing movement of the article.



These rodless cylinders were described in the patent literature beginning in the early 1960s.

A. The Missing Claimed Sealing Ring

In the prior art, there was a sealing ring at each end of the piston which would perform the functions of sealing the piston, wiping the inner wall of the tube and guiding the piston. The Stoll patent disclosed and specifically claimed improving the prior art sealing ring by substituting therefor the combination of (1) a soft sealing ring and (2) a hard guiding ring. Thus, the specification stated

> the sealing means of the piston comprise sealing rings and the piston is provided with sliding guide rings near the sealing rings. The advantage of this is that a relatively soft material can be used for the piston sealing rings, which no longer have to perform any significant guiding functions.

This distinction was further emphasized by Festo as follows

> Prior art rodless cylinders incorporated a single ring on the piston which was used to not only maintain the separation between the piston and the inner wall surface of the tube but also to create a seal with the inner wall surface so that fluid pressure can build up within the tube on one side of the piston to move the piston. A more rigid or harder material used for the seal is desirable in order to maintain the separation between the piston and the inner wall surface of the tube. However, when a more rigid or harder material is used for the seal, the sealing and wiping functions are not effectively obtained. On the other hand, if a soft resilient material is used for the seal, it will conform well to the engaging surface of the inner wall of the cylinder tube and seal and wipe effectively; but, the magnetic force and free floating piston will overcome the soft material and the magnets will engage the tube wall and interfere with the reciprocal movement of the piston on the tube.

The one seal SMC rodless cylinder accused of infringement has, at one end of the piston, only a guiding ring and no sealing ring. Since the Stoll patent claim specifically recites a sealing ring and a guiding ring at each end of the piston, the SMC rodless cylinder is missing both a claimed element and its function.

Through the mischief generated by an unrestricted doctrine of equivalents, Festo was able to assert at trial and the Federal

Circuit found that a guide ring is the equivalent of the combination sealing ring and guide ring recited in the Stoll claim even though this is directly contrary to the Stoll specification which the public must rely upon to determine the scope of the Stoll patent claim.

B. The Missing Claimed Magnetizable Material

The Stoll patent also discloses and specifically claims the use of magnetizable material in the outer covering (sleeve) of the follower to shield magnetic leakage fields to prevent undesirable braking forces. Thus, the Stoll specification states

> The counterpart of the piston body is a sleeve 30 made of a magnetisable material to reduce magnetic leakage fields.

and

> If the driven assembly [follower] is provided with a sleeve made of a magnetisable material, which encircles the hollow cylindrical assembly of the magnet arrangement, magnetic leakage fields in the vicinity of the driven assembly can be kept to a minimum. In this way, undesirable braking forces, which would otherwise be generated while piston and driven assembly pass magnetisable machine components, are avoided.

The Stoll patent claim specifically recites "a cylindrical sleeve made of a magnetizable material." Festo conceded that the SMC cylindrical sleeve was not made of a magnetizable material. Thus, the SMC cylinder did not include the claimed magnetizable material or its function.

Festo asserted at trial and the Federal Circuit found that the alloy used in the sleeve of SMC's follower, although non-magnetizable and unable to prevent undesirable braking fields, nonetheless, would have included certain minute magnetic impurities as a result of its manufacturing process and these minute magnetic impurities could shield minute magnetic fields. Thus, through the mischief generated by an unrestricted doctrine of equivalents, a non-magnetizable material was transformed into "the equivalent" of its direct opposite - a magnetizable material. This, of course, is directly contrary to the specification of the Stoll patent which specifies magnetizable material (not non-magnetizable material) in order to prevent undesirable braking forces.

IV. The Jury Trial Issue

This Court has specifically held that the burden "[for appointment of a special master] is considerably increased and it will indeed be a rare case in which it can be met" and that "[e]ven this limited inroad upon the right to trial by jury 'should seldom be made, and if at all only when unusual circumstances exist.'" *Dairy Queen, Inc. v. Wood*, 379 U.S. 469, 478 n.18 (1962).

The Federal Circuit's opinion in this case does not specify any "unusual circumstances" for this case as contrasted to other patent cases nor does it specify why this case should be considered the "rare case" referred to by this Court. If this case is the "rare case" referred to by this Court, almost all patent cases are such rare cases.

The Federal Circuit's decision in this case also holds that "the complexity of the technologic facts" justified disregarding the "read to the jury" restriction of rule 53. However, this would

justify disregarding the rule in almost every patent case and would frustrate the rule's purpose of preventing a master's report (on even one issue - much less the entire case) from being accorded far too much weight.

The right to a jury trial is the right to have a jury decide the case *ab initio* - not to have the jury consider whether a full trial before a master was correctly decided in whole or in part.

None of the cases cited by the Federal Circuit in its opinion justify having for patent cases a first trial before a master to decide the entire case and a second trial before a jury to consider the master's conclusions. *Ex parte Peterson*, 253 U.S. 300 (1920) involved only the appointment of an auditor to consider financial matters. *Constant v. Advanced Micro-Devices, Inc.*, 848 F.2d 1560 (Fed. Cir.), *cert. denied*, 488 U.S. 892 (1988) involved only recommendations concerning summary judgment, matters which do not concern a jury. In fact, *Constant* supported SMC's motion that the court enter the special master's finding that there was no infringement as a matter of law. In *La Buy v. Howes Leather Co.*, 352 U.S. 249 (1957), the reference to a master to try a non-jury anti-trust case was vacated. Also *La Buy* (at 256-57) refers to *McCullough v. Cosgrave*, 309 U.S. 634 (1940) in which "the Court summarily ordered vacated the reference of two patent cases to a master." *Crateo, Inc. v. Intermark, Inc.*, 536 F.2d 862 (9th Cir. 1976) only involved the appointment of a bankruptcy referee to consider "tangled financial affairs" with respect to insolvency and supports SMC's

position that rule 53(e)(3) requires that the master's report can only be read and not given to the jury.[1]

The Federal Circuit appears to imply (at page 12 of its opinion) that SMC was not prejudiced by having the master's report as the focus of the trial since the jury did not follow the Stoll non-infringement conclusion by the special master favorable to SMC. However, the jury followed the conclusions by the master which were adverse to SMC. If the Federal Circuit is implying that, because the jury was not influenced by the master's one finding in favor of SMC, it must not have been influenced by the other findings of the master in favor of Festo, such a conclusion would not be supportable since it would justify the admission of any inadmissible evidence before a jury on the basis that there can be no assurance that the jury relied upon it.

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[1] At page 11 of its opinion, the Federal Circuit states that SMC "agreed that portions of the report could be read to the jury." This is incorrect. SMC repeatedly objected to having the report read to the jury and specifically objected to Judge Saris' order requiring SMC to redact portions of the report. Federal Circuit joint appendix A2391-93, A2451-57, A4461-65, A4901-02, A4911-17, A14, A5121-35, A5391-94. Also, see footnote 12 at page 36 of SMC's main brief and page 4 of SMC's reply brief.

At page 11 of its opinion, the Federal Circuit appears to imply that SMC only objected to Judge Saris not retrieving from the jury, prior to deliberations, each juror's copy of the master's report. However, as noted above, SMC objected to the entire procedure from the start and the procedure was tainted long before the jurors were permitted to retain copies of the master's report during their deliberations.

At page 12 of its opinion, the Federal Circuit appears to imply that SMC should not have made reference to the master's findings during the trial. However, once Judge Saris had determined over SMC's objections that the master's report would be introduced into evidence at trial, SMC had no choice but to conduct the trial as Judge Saris had ordered.

ARGUMENT FOR ALLOWANCE OF THE WRIT

I. The Doctrine of Equivalents Issue

The two most important issues in patent law are (1) infringement and (2) validity. The infringement issue, more often than not, concerns the doctrine of equivalents and the validity issue, more often than not, concerns obviousness. When this Court in 1965-66 decided the criteria for the fundamental issue of obviousness, it granted certiorari in four cases and heard them together - *Graham v. John Deere Co. of Kansas City*; *Calmar, Inc. v. Cook Chemical Co.*; *Colgate-Palmolive Co. v. Cook Chemical Co.*; 383 U.S. 101 (1966) (often referred to as "the trilogy") and *U. S. v. Adams*, 383 U.S. 39 (1966). These cases were argued together on October 14, 1965 and decided together on February 21, 1966. Hearing and deciding these cases together permitted the Court to instruct the patent bar and the judiciary with respect to three different fact situations which resulted in a finding of non-obviousness for one of the patents (*Adams*) and a finding of obviousness for the other two patents (the trilogy). The Court can provide the patent bar and the judiciary with similar detailed and critical guidance as to the doctrine of equivalents by granting certiorari in this case and having it heard and decided with *Hilton Davis*.

Apart from being heard and decided with *Hilton Davis*, this case is particularly "cert. worthy" since it presents an egregious example of the mischief generated by an unrestricted doctrine of equivalents.

Our patent system does not permit an inventor to obtain a patent on something as general, unspecific and undefinable as his "invention." Rather, it has been the requirement for many years that a patent applicant submit with his application "one or more

claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention." 35 U.S.C. §112, ¶2.

The importance of this requirement cannot be overstated. The claims, which are the subject of rigorous negotiation between the patent examiner and the applicant, provide notice to the public as to (1) what is covered and (2) what is not covered by the patent.[2] Both branches of this notice are critical. The first branch stakes out the patentee's territory and lets the public know that any invasion of this territory could result in liability for patent infringement. The second branch stakes out the public's territory for legitimate, beneficial and desired "design around" activity.[3] Both branches are essential to a properly operating patent system. The first branch provides the incentive for the inventor to make his invention - to which the public will have access after the expiration of the patent. The second branch provides the public with the knowledge of the invention and its boundaries to create fertile ground for further inventions. An

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[2] "The inventor must 'inform the public during the life of the patent of the limits of the monopoly asserted, so that it may be known which features may be safely used or manufactured without a license and which may not." *Hilton Davis, supra* at 1541 (Plager, Archer, Rich, Lourie, J., dissenting) quoting *United Carbon Co. v. Binney & Smith Co.*, 317 U.S. 228, 232 (1942) quoting *General Elec. Co. v. Wabash Corp.*, 304 U.S. 364, 369 (1938).

[3] "Competitors and other members of the public are entitled to rely on the scope of the claims set out in a patent, as the statute requires, and to design around the patentee's statutorily-protected rights." *Hilton Davis, supra* at 1540 (Plager, Archer, Rich, Lourie, J., dissenting).

unrestricted[4] doctrine of equivalents is destructive of both branches since the public cannot know what the claims cover until after the matter has been fully litigated.

Mr. Justice Black was only too correct when over 45 years ago he predicted

> One need not be a prophet to suggest that today's rhapsody on the virtue of the "doctrine of equivalents" will, in direct contravention of the Miller case supra, make enlargement of patent claims the "rule" rather than the "exception."[5]

and when he further noted that it would be the public and not the patentee who was likely to suffer from "fraud" and "piracy."

> Under these circumstances I think petitioner had a right to act on the belief that this Court would follow the plain mandates of Congress that a patent's precise claims mark its monopoly boundaries, and that expansion of those claims to

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[4] In practice, the doctrine is largely unrestricted. Although an "insubstantial" change supposedly dictates a conclusion of infringement and a "substantial" change supposedly dictates a conclusion of noninfringement, these terms are often no more than labels to justify a particular conclusion. "[T]he reality is that the doctrine of equivalents is a virtually uncontrolled and unreviewable license to juries to find infringement if they so choose. And this is done largely without regard to and independent of the express limitations of the patent claims which may have brought about their allowance by the Patent and Trademark Office (PTO) in the first place." *Hilton Davis, supra* at 1538 (Plager, Archer, Rich, Lourie, J., dissenting).

[5] *Graver Tank & Mfg. Co. v. Linde Air Products Co.*, 339 U.S. 605, 616 (1950) (Black, J., dissenting).

> include manganese could be obtained only in a statutory reissue proceeding. The Court's ruling today sets the stage for more patent "fraud" and "piracy" against business than could be expected from faithful observance of the congressionally enacted plan to protect business against judicial expansion of precise patent claims.[6]

Now that the majority of patent trials are to juries (*Hilton Davis, supra* at 1567 n. 19, Nies, J., dissenting), the situation has grown even worse since the supposed basis for any doctrine of equivalents infringement conclusion is veiled in a secrecy which is difficult to pierce upon appeal.

> The mixing [consideration of the doctrine of equivalents] is still to be done in the dark, by the multiple hands of a jury under minimal instruction. When that product, an announced "yes, it infringes" or "no, it does not" arrives at this court, we will remain as blinded as we are now in our ability to pierce the doctrinal veil.[7]

This case presents an egregious example of the mischief generated by an unrestricted doctrine of equivalents since the Stoll specification (and claims) proclaim non-equivalency with

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[6] *Id.* at 617 (Black, J., dissenting).

[7] *Hilton Davis, supra* at 1537 (Plager, Archer, Rich, Lourie, J., dissenting).

respect to what was later held by the jury and the Federal Circuit to be equivalency.[8]

With respect to the missing sealing ring and its function, the Stoll patent specifically claims the combination of a sealing ring and a guiding ring at each end of the piston and the specification unequivocally states that "[t]he advantage of this is that a relatively soft material can be used for the piston sealing rings, which no longer have to perform any significant guiding functions." However, at trial, and directly contrary to the specification upon which the public must rely to determine the scope of the patent claim, Festo asserted that the guiding ring was the equivalent of the combination of a sealing ring and a guiding ring. The Federal Circuit in its opinion (at 6) characterized this as merely "[i]nefficient infringement." The result is that the public is stymied in its attempts to explore this technology since, not being able to place any reliance upon the claims of the patent because of the doctrine of equivalents, it can

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[8] The doctrine of equivalents has long been used to transform a patent claim into a "nose of wax." "Some persons seem to suppose that a claim in a patent is like a nose of wax, which may be turned and twisted in any direction, by merely referring to the specification, so as to make it include something more than, or something different from what its words express.... The claim is a statutory requirement, prescribed for the very purpose of making the patentee define precisely what his invention is; and it is unjust to the public, as well as an evasion of the law, to construe it in a manner different from the plain import of its terms. This has been so often expressed in the opinions of this court that it is unnecessary to pursue the subject further." *Hilton Davis*, *supra* at 1540 (Plager, Archer, Rich, Lourie, J., dissenting) quoting *White v. Dunbar*, 119 U.S. 47, 51-52 (1886).

have no idea what constitutes (1) infringement, (2) "inefficient" infringement or (3) non-infringement.[9]

Likewise, with respect to the missing magnetizable material and its function, the Stoll patent specifically claims "a cylindrical sleeve made of a magnetizable material" and the specification unequivocally provides that "[i]f the driven assembly [follower] is provided with a sleeve made of a magnetizable material, which encircles the hollow cylindrical assembly of the magnet arrangement, magnetic leakage fields in the vicinity of the driven assembly can be kept to a minimum. In this way undesirable braking forces, which would otherwise be generated while piston and driven assembly pass magnetizable machine components, are avoided." However, at trial, and directly contrary to the specification upon which the public must rely, Festo asserted that a non-magnetizable material was the equivalent of its opposite - a magnetizable material. In its opinion (at 6), the Federal Circuit appears to imply that the operation of the SMC rodless cylinder did not suffer by not having a magnetizable material in the sleeve since the "magnetic flux leaking from the cylinder is very small." However, if the leakage is very small with the result that there was no need to use the claimed "magnetizable material," this indicates non-infringement, not infringement. Not surprisingly,

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[9] This also contravenes the constitutional mandate "'To promote the Progress of * * * useful Arts, by securing for limited Times to * * * Inventors the exclusive Right to their * * * Discoveries.' Art. I, §8, cl. 8." noted in *Graham*, *supra* at 5 since it discourages, not encourages, invention. "A zone of uncertainty which enterprise and experimentation may enter only at the risk of infringement claims would discourage invention only a little less than unequivocal foreclosure of the field." *Hilton Davis*, *supra* at 1570 (Nies, J., dissenting) quoting *United Carbon Co. v. Binney & Smith Co.*, 317 U.S. 228, 236 (1942).

Festo's expert Dr. Schroeder, whom the Federal Circuit heavily relies upon in its opinion, conceded - Q. You don't get undesirable braking forces for minimal fields, do you? A. That's correct."[10]

While some may say it is unfair to restrict a patentee to the language of his claims, others say that, if someone must suffer, it should be the patentee since only he had the opportunity to ensure that the claims contained the appropriate language.[11] Further, resolution of the issue does not involve writing upon a clean slate. The issue has been previously, and statutorily, determined. 35 U.S.C. §251, ¶4. The patent law recognizes that a patentee may claim less than he had a right to claim. Accordingly, it provides him an opportunity to correct his claims and make them broader. However, the patent law recognizes the

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[10] "Absurd" conclusions with respect to equivalents have a long history in patent law. "These abstract phrases, '*substantial* identity,' 'equivalent,' 'mode of operation,' & c., are often used in such a vague and equivocal manner, that they mystify and lead many to absurd conclusions, who will not distinguish between things that differ." *Hilton Davis*, *supra* at 1574 (Nies, Archer, J., dissenting) quoting *Burr v. Duryee*, 68 U.S. (1 Wall.) 531, 572 (1863).

[11] "In the case under consideration the patentee might have included in the application for the original patent, claims broad enough to embrace petitioner's accused machine, but did not. This 'gave the public to understand' that whatever was not claimed 'did not come within his patent and might rightfully be made by anyone.'" *Graver Tank*, *supra* at 617-18 (Black, J., dissenting) quoting *Sontag Stores Co. v. Nut Co.*, 310 U.S. 281 (1940). "[N]othing can be more just and fair, both to the patentee and to the public, than that the former should understand, and correctly describe, just what he has invented, and for what he claims a patent." *Hilton Davis*, *supra* at 1574 (Nies, Archer, J., dissenting).

difficulties caused by this "retroactive"[12] patenting and it specifically restricts such claim broadening to a reissue application filed within two years from the grant of the original patent and it specifically requires that the broadened claims be subjected to the scrutiny of an examination for patentability. In the present case, Festo, through the mischief of an unrestricted doctrine of equivalents, was able at trial to broaden its patent claims 12 years after their issuance and without subjecting the broadened claims to examination by a patent examiner familiar with this technology.[13]

II. The Jury Trial Issue

As noted *supra*, a closely related issue was heard earlier this term in *Markman v. Westview Instruments, Inc.*, 52 F.3d 967 (Fed. Cir.), *cert. granted*, 116 S.Ct. 40 (1995). In *Markman*, the Federal Circuit held that courts, rather than juries, should resolve disputed issues of fact concerning the meaning of patent claims. The Federal Circuit's ruling in this case is far more extensive

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[12] Justice Black refers to the less stringent predecessor reissue statute as "protect[ing] businessmen from retroactive infringement suits and judicial expansion of a monopoly sphere beyond that which a patent expressly authorizes." *Graver Tank*, *supra* at 615 (Black, J., dissenting). Judge Nies (formerly Chief Judge Nies) refers to this "retroactive infringement" as "unknowable infringement." *Hilton Davis*, *supra* at 1562 (Nies, J., dissenting).

[13] Judge Nies has noted how patentees have improperly taken advantage of the judiciary's sense of fairness. "The patentee is much better off evading the reissue procedure which Congress has provided [with its two year and examination requirements], and resorting to its counterpart, the doctrine of equivalents, created out of the judiciary's sense of 'fairness.'" *Hilton Davis*, *supra* at 1560, (Nies, J., dissenting).

than in *Markman* with respect to reducing the role of juries in patent cases. Thus, for the first time and without precedent, the Federal Circuit holds that reduction of the jury's role is not limited to patent claim interpretation but extends to the entire case. More particularly, under the Federal Circuit's decision, juries in patent cases can be denied the right to decide any issue *ab initio* and it is sufficient to have a special master decide the entire case as long as the jury can decide whether the master was right or wrong. This is both a plain violation of the fundamental constitutional right to trial by jury and extremely onerous and wasteful since it permits the requirement that patent cases, notoriously expensive to begin with, be tried in full before a special master and then tried again before a jury.

Even when a special master is appointed to decide a specific narrow issue, such an appointment is subject to stringent restrictions, because a jury and not a master should decide disputed factual matters. Rule 53(b) specifically provides that reference to a master is "the exception and not the rule"[14] and "shall be made only when the issues are complicated." Further, this Court has specifically held that "the burden of such a showing [for appointment of a special master] is considerably increased and it will indeed be a rare case in which it can be met," and that "[e]ven this limited inroad upon the right to trial by jury 'should seldom be made, and if at all only when unusual circumstances exist.'" *Dairy Queen, Inc. v. Wood*, 369 U.S. 469, 478 n. 18 (1962).

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[14] It is not clear whether the Federal Circuit is implying at page 10 of its decision that this general statement, which is the first sentence of the rule, has no application to a jury trial reference.

There were no "unusual circumstances," and this was not the "rare case" to justify the appointment of a special master to decide any issue, much less to decide the whole case. Patent cases are "mainstream" cases and should be treated as such. There can be no basis for holding that a patent case is too complicated for a jury to decide without having the entire case first tried and decided by a master. Indeed, this case was far simpler than most patent cases in that it involved neither highly technical subject matter (such as complex biotechnology or sophisticated electronic circuitry) nor any particularly unusual or complicated issues of patent law. Rather, the case was directed to simple mechanical components and raised only the usual patent law issues.

That this was not the "rare case" to justify appointment of a master was clear even before the appointment of a master. After the master's decision was rendered, this was even more apparent. Where a master is appointed and his report reveals that the issues are not sufficiently complicated to justify the appointment, admission of the report constitutes error. *Boyd Callan, Inc. v. United States*, 328 F.2d 505, 507 (5th Cir. 1964) ("By that time it was clear that the issues were not too complicated for a jury to decide.").

Further, the master's report was improperly presented to the jury. An appointment of a master, even to decide a specific narrow issue, is a significant inroad upon the fundamental constitutional right to a trial by jury. Thus, even in the "unusual circumstances" in which such a reference is proper, rule 53(e)(3) restricts the manner in which the master's report may be presented to the jury. The rule only authorizes the reading of the master's report to the jury ("may be read to the jury"); it does not

authorize giving multiple copies to the jury for their review, either throughout the trial or during the jury's deliberations. Here, the district court gave multiple copies of the report to the jury for review at their leisure during the trial.

Equally fundamental, nothing in the rule envisions the jury being told how the master decided the ultimate issues in the case. It would be one thing if the district court had simply read to the jury the master's findings that certain features of the patented cylinders were or were not present in particular prior art references, or that a single seal piston did or did not operate in a particular way, although this, too, is improper. It was quite another for the district court to give the jury in writing the master's ultimate conclusions that the Carroll and Stoll patents were valid and that the Carroll patent was infringed. This was hardly the "limited inroad upon the right to trial by jury" that this Court in *Dairy Queen* said "should seldom be made, and if at all only when unusual circumstances exist."

The Federal Circuit's ruling, besides permitting the requirement that each patent case be tried twice, plainly violates the fundamental constitutional right to a jury trial, even in patent cases.

CONCLUSION

This petition presents two separate and independent questions for review and, for the foregoing reasons, granting of

the petition with respect to each question presented for review is respectfully requested.[15]

Respectfully submitted,

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March 26, 1996

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[15] In the usual case, granting of a petition for a writ of certiorari imposes a significant burden upon this Court to become familiar with the myriad details of a particular and often highly specialized legal issue. This petition is the exception to this usual rule. As to the doctrine of equivalents issue, this Court has already assumed this burden by granting certiorari in *Hilton Davis* where the same question has been presented for review. As to the jury trial issue, this Court has already assumed much of this burden by granting certiorari in *Markman* where a closely related question (how closely related will depend upon the decision) has been presented for review.

APPENDIX

United States Court of Appeals for the Federal Circuit

95 - 1066

FESTO CORPORATION,

Plaintiff-Appellee,

v.

SHOKETSU KINZOKU KOGYO KABUSHIKI CO., LTD., a/k/a SMC CORPORATION, and SMC PNEUMATICS, INC.,

Defendants-Appellants.

Charles R. Hoffmann, Hoffmann & Baron, of Jericho, New York, argued for plaintiff-appellee. With him on the brief was Gerald T. Bodner.

Arthur I. Neustadt, Oblon, Spivak, McClelland, Maier & Neustadt, P.C., of Arlington, Virginia, argued for defendants-appellants.

Appealed from: U.S. District Court for the District of Massachusetts

Judge Saris

[page 1]

United States Court of Appeals for the Federal Circuit

95-1066

FESTO CORPORATION,

Plaintiff-Appellee,

v.

SHOKETSU KINZOKU KOGYO KABUSHIKI CO., LTD., a/k/a SMC CORPORATION, and SMC PNEUMATICS, INC.,

Defendants-Appellants.

DECIDED: December 14, 1995

Before RICH, NEWMAN, and MICHEL, Circuit Judges.

NEWMAN, Circuit Judge.

Shoketsu Kinzoku Kogyo Kabushiki Co., Ltd., also known as SMC Corporation, and SMC Pneumatics, Inc. (collectively SMC) seek reversal of the judgment of the United States District

Court for the District of Massachusetts,[1] holding that SMC had infringed two patents owned by Festo Corporation and assessing damages. The patents relate to magnetically coupled rodless cylinders wherein the follower moves by magnetic attraction to the piston, which is moved hydraulically or pneumatically. We affirm the judgment.

[page 2]

I

SUMMARY JUDGMENT - THE CARROLL PATENT

Before trial the district court granted Festo's motion for partial summary judgment, finding infringement of United States Patent No. 3,779,401 (the Carroll patent) under the doctrine of equivalents. SMC, appealing this judgment, argues that in summarily finding infringement the trial Judge engaged in impermissible fact-finding, contrary to the appropriate standard for Rule 56 determinations. We review the summary judgment for correctness of the process, as well as for its legal conclusion. The grant of summary judgment is given plenary review on appeal.

Summary judgment is appropriate when "the pleadings, depositions, answers to interrogatories, and admissions on file, together with the affidavits, if any, show that there is no genuine issue as to any material fact and that the moving party is entitled to a judgment as a matter of law." Fed. R. Civ. P. 56(c); Celotex

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[1] Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co., No. 88-1814-PBS (D. Mass. Feb. 3, 1994).

Corp. v. Catrett, 477 U.S. 317, 322 (1986). A material fact is one whose finding is necessary to the proceedings. Anderson v. Liberty Lobby, Inc., 477 U.S. 242, 248 (1986). A genuine issue of material fact is shown to exist if sufficient evidence is presented whereby a reasonable fact finder could decide the question in favor of the nonmoving party. Id. The evidence submitted by the nonmovant, in opposition to a motion for summary judgment, "is to be believed, and all justifiable inferences are to be drawn in his favor." Id. at 255.

In ruling on a motion for summary judgment the court must bear in mind the actual quantum and quality of proof necessary to support liability under the applicable law. Id. at 254. It is the opposing party's responsibility to raise issues of material fact that would make summary judgment inappropriate. Matsushita Elec. Indus. Co. v. Zenith Radio Corp., 475 U.S. 574, 585-87 (1986). The court must assess the adequacy of the nonmovant's response and must determine whether the showing the nonmovant asserts it would have made at trial would be sufficient to sustain its position. See Celotex, 477 U.S. at 322.

[page 3]

The infringement issue concerning the Carroll patent, which expired in 1990, was focused on reexamined claim 9, shown in the margin.[2] All of the claim elements were conceded to be

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[2] **Claim 9**. A device for moving articles, which comprises:

a hollow cylinder formed of non-ferrous material and having opposite axial ends;

a piston mounted in the interior of the hollow cylinder and

(continued...)

literally present in the accused devices except for both members

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[2](...continued)
reciprocatingly slidable therein, the piston including a central mounting member disposed axially in the cylinder,

a plurally of cylindrically-shaped permanent magnets mounted on the central mounting member and spaced apart axially from each other, each magnet having a bore formed axially therethrough for receiving the central mounting member,

at least one pair of end members mounted on the central mounting member and disposed on opposite axial sides of the plurality of magnets,

a pair of cushion members formed of resilient material, the cushion members being situated near opposite axial ends of the central mounting member to help prevent damage to the piston when the piston contacts an axial end of the cylinder,

and a pair of resilient sealing rings situated near opposite axial ends of the central mounting member and engaging the cylinder to effect a fluid-tight seal therewith;

a body mounted on the exterior of the hollow cylinder and reciprocatingly slidable thereon, the body including a plurality of annularly shaped permanent magnets surrounding the cylinder and spaced apart from each other,

the permanent magnets of the piston and body being polarized so as to magnetically couple the body to the piston whereby
movement of the piston inside the cylinder causes a corresponding movement of the body outside the cylinder,

the body further including means provided thereon for holding on the body an article to be moved;

and means for controlling the admission of pressure fluid into the cylinder and exhaust fluid from the cylinder for moving the piston in the cylinder,

the attractive forces between the permanent magnets of the piston and the body being such that movement of the piston causes corresponding movement of the body below a predetermined load on the body and such that above said predetermined load movement of the piston does not cause corresponding movement of the body. [Paragraphing added.]

of the pair of resilient sealing rings. SMC stated to the special master "We've decided that we will not be presenting any testimony concerning infringement." Absent evidence that placed in dispute the facts of infringement, summary judgment could properly be granted on undisputed facts.

In granting summary judgment that the claim was infringed, the district court observed that SMC offered no evidence to refute Festo's assertion that substantially the same function was performed, in substantially the same way with the same result, by the claimed pair of resilient sealing rings when situated one at each end of the central mounting member, and by SMC's single ring situated at the end contacted by the pressure fluid. Although SMC now argues that there has not been compliance with the "all elements rule" of Pennwalt Corp. v.

[page 4]

Durand-Wayland, Inc., 833 F.2d 931, 935, 4 USPQ2d 1737, 1739-40 (Fed. Cir. 1987) (in banc), cert. denied, 485 U.S. 961, 1009 (1988), we take note that, as held in Dolly, Inc. v. Spalding & Evenflo Cos., 16 F.3d 394, 398, 29 USPQ2d 1767, 1769 (Fed. Cir. 1994) and Intel Corp. v. Int'l Trade Comm'n, 946 F.2d 821, 832, 20 USPQ2d 1161, 1171 (Fed. Cir. 1991), there need not be one-to-one correspondence between the components of an accused device and the claimed invention. It was not disputed that the rings served the primary function of providing a tight seal at the end contacted by the pressure fluid. There was undisputed evidence to support a finding that the two-way seal employed by SMC, as used in the accused device, corresponds to the two resilient sealing rings of the claimed invention. On the record that was the basis of the motion for summary

judgment we do not discern reversible error in the court's grant of summary judgment of infringement as to the Carroll patent. That judgment is affirmed.

II

THE JURY TRIAL

The remaining issues were tried to the jury. The jury found valid the Carroll patent and the Stoll patent (United States Patent No. 4,354,125), found the Stoll patent infringed, and assessed damages. The district court entered judgment on the jury verdict, denying duly made post-trial motions. The issues appealed relate only to infringement and damages; no appeal is taken on the issue of validity of either the Carroll or the Stoll patent.

We review the jury verdict to ascertain whether there was substantial evidence whereby a reasonable jury could have reached the verdict that was reached. Substantial evidence is such relevant evidence, on the record as a whole, as could be accepted by a reasonable mind as adequate to support the verdict. Perkin-Elmer Corp. v. Computervision Corp., 732 F.2d 888, 893, 221 USPQ 669, 673 (Fed. Cir.), cert. denied, 469 U.S. 857 (1984). The court must consider the evidence in the light most favorable to the party in whose favor the jury found, and must not substitute its choice for the jury's in drawing factual inferences or deciding

between conflicting evidence. Brooktree Corp. v. Advanced Micro Devices, Inc., 977 F.2d 1555, 1580, 24 USPQ2d 1401, 1419 (Fed. Cir. 1992).

A. INFRINGEMENT OF THE STOLL PATENT

Stoll patent claim 1 is shown in the margin.[3] The issue of

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[3] **Claim 1**. In an arrangement having a hollow cylindrical tube and driving and driven members movable thereon for conveying articles, the improvement comprising

wherein said tube is made of a nonmagnetic material,

wherein said driving member is a piston movably mounted on the inside of said tube,

said piston having a piston body and plural axially spaced, first permanent annular magnets encircling said piston body,

said piston further including first means spacing said first permanent magnets in said axial spaced relation, the radially peripheral surface of said magnets being oriented close to the internal wall surface of said tube,

said piston further including plural guide ring means encircling said piston body and slidingly engaging said internal wall and first sealing rings located axially outside said guide rings for wiping said internal wall as said piston moves along said tube to thereby cause any impurities that may be present in said tube to be pushed along said tube so that said first annular magnets will be free of interference from said impurities,

wherein said driven member includes a cylindrical sleeve made of a magnetizable material and encircles said tube,

said sleeve having plural axially spaced second permanent annular magnets affixed thereto and in magnetically attracting relation to said first permanent annular magnets and second means spacing said second permanent annular magnets in said axially spaced relation, the radially inner surface of said magnets being oriented close to the external surface of said tube,

said sleeve having end face means with second sealing rings located axially outside said second permanent annular magnets for wiping the external wall surface of said tube as said driven member

(continued...)

infringement focused on the claim clauses relating to the guide rings and sealing rings, for some of the accused devices contained four rings and some contained only three rings; and to the magnetizable material in the sleeve of the follower. The presence of all other claim elements and limitations in the accused devices was conceded. We confirmed in Hilton Davis Chem. Co. v. Warner-Jenkinson Co., 62 F.3d 1512, 35 USPQ2d 1641 (Fed. Cir. 1995) (en banc) that the fundamental inquiry with respect to equivalency is whether the accused device is substantially the same as the patented invention, affirming the utility of the function/way/result test for substantial identity, and the relevance of objective considerations such as copying or independent development.

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Both sides presented testimony and made cogent arguments at trial on the merits of their respective positions on the technologic aspects of equivalency. There was expert testimony on behalf of Festo that the SMC cylinder having a follower using an aluminum alloy sleeve encircling the magnets is substantially the same as the claimed cylinder wherein the sleeve is made of "magnetizable material," and that both serve the function of reducing magnetic leakage. Festo's expert witness in the field of physics and magnetism, Dr. Schroeder, explained that because of the small gap, any magnetic flux leaking from the cylinder is very small. He showed the tests he conducted on the SMC

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[3](...continued)
is moved along said tube in response to a driving movement of said piston to thereby cause any impurities that may be present on said tube to be pushed along said tube so that second permanent annular magnets will be free of interference from said impurities. [Paragraphing added.]

sleeve, and explained the evidence that a 300% reduction in magnetic leakage fields was produced by the SMC sleeve. Dr. Schroeder explained how he analyzed the composition of the SMC sleeve and compared it to the sleeve described in the patent. He testified that the SMC sleeve formed a magnetic circuit in substantially the same way as the sleeve of the patent, that it served the same function of shielding and minimizing leakage fields, and that it obtained substantially the same result of avoiding undesirable braking forces.

There was also evidence before the jury concerning the double rings at each end of the central member. SMC argues that the omission of one of the sealing rings precludes a finding of infringement, under the "all elements rule" of Pennwalt. However, this rule does not require a one-to-one correspondence of components. See, e.g., Dolly v. Spalding, 16 F.3d at 398, 29 USPQ2d at 1769; Intel v. ITC, 946 F.2d at 832, 20 USPQ2d at 1171. There was testimony concerning the effect of the omission by SMC of one of the four rings, and the effect of the location of the omitted ring distal from the pressure medium. Festo presented testimony that the use by SMC of a guiding ring at both ends, retaining the wiping/sealing ring only at the end adjacent the pressure medium, corresponded to and was equivalent to the claimed ring structure, and that the SMC ring structure would still improve the life of the piston, although not as effectively as would the use of two rings at both ends. Inefficient infringement is still

infringement. Laitram Corp. v. Cambridge Wire Cloth Co., 863 F.2d 855, 859, 9 USPQ2d 1289, 1294 (Fed. Cir. 1988), cert. denied, 490 U.S. 1068 (1989).

A verdict of infringement must be sustained if reasonable jurors, viewing the evidence as a whole, could have found the facts needed to reach the verdict that was reached, in light of the applicable law. It is our obligation to defer to the trier of fact when we come upon substantial evidence to support the verdict. We neither make our own findings as if there had been no trial, nor attempt to reconstruct the entire trial on a paper record. Anderson v. City of Bessemer City, 470 U.S. 564, 573 (1985) ("The reviewing court oversteps the bounds of its duty under Rule 52(a) if it undertakes to duplicate the role of the lower court. . . . 'Appellate courts must constantly have in mind that their function is not to decide factual issues de novo.'") (quoting Zenith Radio Corp. v. Hazeltine Research, Inc., 395 U.S. 100, 123 (1969)).

Although the differing expert opinions reflect the closeness of the technologic facts, there was substantial evidence whereby a reasonable jury could have found infringement of the Stoll patent in terms of the doctrine of equivalents. See Transnational Corp. v. Rodio & Ursillo, Ltd., 920 F.2d 1066, 1068 (1st Cir. 1990) ("In reviewing the jury verdict, we are compelled even in a close case, 'to uphold the verdict unless the facts and inferences, when viewed in a light most favorable to the party for whom the jury held, point so strongly and overwhelmingly in favor of the movant that a reasonable jury could not have arrived at this conclusion.'") (quoting Chedd-Angier Production Co. v. Omni Publications Int'l Ltd., 756 F.2d 930, 934 (1st Cir. 1985)).

B. PROSECUTION HISTORY ESTOPPEL

The issue of prosecution history estoppel is raised by SMC on appeal. At trial, counsel correctly stated that "This is not really a prosecution history estoppel case." Counsel argues that it is now our obligation to determine the scope and meaning of claim terms *de novo*. Indeed Markman v. Westview Instruments, Inc., 52 F.3d 967,970-71, 34 USPQ2d 1321, 1322 (Fed. Cir. 1995) (en banc requires independent determination of the construction of the claims,

[page 8]

as a matter of law, unencumbered by the trial process. However, the issue of estoppel, to the extent that it was raised at trial, was aired in extensive testimony by the inventor and by expert witnesses on both sides, all directed to the meaning of "magnetizable material." Related factual issues were also disputed, such as the reason for the addition of this limitation to the claims.

Festo argues that prosecution history estoppel does not bar a finding of equivalency when a descriptive term in the claim was not required to be included in order to overcome prior art. See Hilton Davis, 62 F.3d at 1525, 35 USPQ2d at 1651 ("Nor does prosecution history estoppel preclude application of the doctrine of equivalents in this case. Whenever prosecution history estoppel is invoked as a limitation to infringement under the doctrine of equivalents, a close examination must be made as to, not only what was surrendered, but also the reason for such a surrender.") (internal quotation marks and citations omitted). As discussed in Vaupel Textilmaschinen KG v. Meccanica Euro

Italia S.p.A., 944 F.2d 870, 882, 20 USPQ2d 1045, 1054 (Fed. Cir. 1991), in determining whether prosecution history estoppel applies when there has been a change in claim language during prosecution, the court must consider both what was changed and the reason for the change. The scope of any asserted estoppel is determined in light of the prior art in the field of art relevant to the change, the statements made to the patent examiner as to the reason for the change, and the purpose of the change as it relates to the allowance of the claims. See Mannesmann Demag Corp. v. Engineered Metal Prods. Co., 793 F.2d 1279, 1284-85, 230 USPQ 45, 48 (Fed. Cir. 1986).

In this case the description of the sleeve as made of magnetizable material was added during prosecution. The reason for the addition was not stated in the prosecution history, was vigorously disputed at trial, and was not at all clear to the trial Judge, who called the addition "a mystery." At the trial there was testimony by the inventor and by experts on both sides, accompanied by extensive argument of counsel. The prosecution record was before the jury, as was the inventor. The trial Judge did not hold Festo estopped to argue that there was

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equivalency between the SMC aluminum alloy sleeve and the claimed magnetizable sleeve. We do not discern error of law in this ruling, and indeed there were before the jury SMC's arguments on the technologic facts. Also before the jury were the special master's contrary findings. The special master, as discussed post, had found that there was prosecution history estoppel barring Festo's assertion of equivalency.

No objection was raised to the district court's instructions on the law of estoppel, or to the presentation of the broad issue to the jury as part of the evidence relating to infringement. See Fed. R. Civ. P. 51 ("No party may assign as error the giving or the failure to give an instruction unless that party objects thereto before the jury retires . . . .") We do not discern reversible error in these proceedings. Taking note of the substantial evidence of technologic identity of function, way, and result in the circumstances of actual use wherein the leakage of magnetic flux from the cylinder was small, and the disputed facts underlying the issue of estoppel, we conclude that the judgment of infringement of the Stoll patent must be sustained.

C. *THE SPECIAL MASTER*

SMC argues that the reference to a special master deprived it of the right to trial by jury, in that the master's report was before the jury. SMC also objects that it was required to try the entire case twice, first to the master and then to the jury. We are sympathetic to the burden on the parties and the cost of two trials. However, this was not a matter of simply turning the case over to a master, as SMC argues, for the case was fully tried, and decided, by Judge and jury.

The federal courts have certain inherent powers to appoint persons unconnected with the court to aid judges in the performance of specific duties. Ex parte Peterson, 253 U.S. 300, 312 (1920) (appointment of auditor to define and simplify the issues); Constant v. Advanced Micro-Devices, Inc., 848 F.2d 1560, 1566-67, 7 USPQ2d 1057, 1060 (Fed. Cir.), cert. denied, 488 U.S. 892 (1988) (special master made recommendations on

issues of validity and infringement). Consent of the parties is not required. Peterson, 253 U.S. at 312-14. SMC

[page 10]

states that it objected to the appointment of a master on the ground that trial to the master should not replace the requested jury trial. However, the jury trial was not replaced. A full jury trial was held, except for the issue concerning the Carroll patent that was decided by summary judgment. Rule 53(b) states in part:

> **Rule 53(b) Reference.** A reference to a master shall be the exception and not the rule. In actions to be tried by a jury, a reference shall be made only when the issues are complicated; in actions to be tried without a jury, save in matters of account and of difficult computation of damages, a reference shall be made only upon a showing that some exceptional condition requires it. . . .

The trial Judge to whom this case was first assigned deemed the case to be sufficiently complicated to be referred to a special master, to conduct a hearing on the issues of patent validity and infringement and to make recommendations on those issues. The successor trial Judge, sharing the view that the issues were complicated, continued the reference. In a nonjury trial, complexity alone does not warrant reference to a master; "On the contrary, we believe that this is an impelling reason for trial before a regular, experienced trial Judge rather than before a temporary substitute appointed on an ad hoc basis and not ordinarily experienced in judicial work." La Buy v. Howes

Leather Co., 352 U.S. 249, 259 (1957). However, the strict "exceptional condition" standard of Rule 53(b) relates only to actions tried without a jury. Thus the district court did not abuse its discretion in referring the complex technologic issues of validity and infringement to a special master.

The master apparently conducted a full trial of these issues, and produced a detailed report. Rule 53(e)(3) permits the master's report to be presented along with other evidence for consideration by the jury:

> **Rule 53(e)(3) In Jury Actions.** In an action to be tried by a jury the master shall not be directed to report the evidence. The master's findings upon the issues submitted to the master are admissible as evidence of the matters found and may be read to the jury, subject to the ruling of the court upon any objections in point of law which may be made to the report.

See Crateo, Inc. v. Intermark, Inc., 536 F.2d 862, 868 (9th Cir.) (findings of special master are admissible as evidence and may be read to the jury; Rule 53(e)(3) does not require master to

[page 11]

personally read findings, or to be made available for cross-examination), cert. denied, 429 U.S. 896 (1976); Peterson, 253 U.S. at 310-11;

> The report will, unless rejected by the court, be admitted at the jury trial as evidence of facts and

> findings embodied therein; but it will be treated, at most, as *prima facie* evidence thereof. The parties will remain free to call, examine, and cross-examine witnesses as if the report had not been made. No incident of the jury trial is modified or taken away either by the preliminary, tentative hearing before the auditor or by the use to which his report may be put.

SMC states that it objected to the possession of a redacted version of the master's report by the jury, although it agreed that portions of the report could be read to the jury. SMC, Festo, and the Judge had previously agreed on the redacted (both sides call it "sanitized") version of the report. We observe that the subject matter remaining in the report related to the technology of the invention and the prior art, and the master's findings and recommendations on the issues of validity and infringement. The master's report favored SMC on the important question of infringement of the Stoll patent, although it favored Festo on the validity issues.

The court allowed the jurors to have a copy of the report, instead of merely reading it to them as stated in the Rule, in light of the complexity of the technologic facts. The copies were to be turned in prior to deliberations, and the jurors were so informed upon distribution of the report. However, apparently not all copies were turned in or collected prior to deliberations. SMC states that this tainted the entire procedure, and requires granting a new trial or setting aside or modifying the verdict.

The district court found that any procedural error was harmless and did not affect the substantial rights of either party.

The district court referred to the following factors: (1) the jurors had notebooks to take notes on the master's report while they were reading it; (2) because various members of the jury finished reading the report on July 11, 12, and 13, the report was fresh in their minds during deliberations on July 14; (3) counsel for both sides commented on the findings in the report during their closing arguments; (4) the court gave clear instructions to the jury that they could give whatever weight they chose to the report and

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that they, not the special master, were the ultimate fact-finders; and (5) the verdict of the jury disregarded a key finding of the master's report with respect to the magnetizable sleeve, demonstrating that the jury did not actually give the master's report undue weight. Post-Trial Memorandum at 2 (July 26, 1994).

We do not deem the jury trial to have been fatally flawed. The technology was complex, the fine points of patent validity and infringement were complex, and the accounting evidence was complex. All were explained in the master's report and during the argument reference was made by both parties to the master's findings and explanations. The master's report is evidence, and as such may be referred to in arguments of counsel. Fed. R. Civ. P. 53(e)(3); Charles A. Wright, Inc. v. F.D. Rich Co., 354 F.2d 710, 714 (1st Cir.), cert. denied, 384 U.S. 960 (1966). There was testimony of witnesses on the points that had been discussed by the special master. Although the Court has

cautioned that a special master must not replace a jury trial, Daily Queen, Inc. v. Wood, 369 U.S. 469, 478 n. 18, 133 USPQ 294, 297 n. 18 (1962); La Buy, 352 U.S. at 258, in this case a full jury trial was held.

It is significant that the jury verdict did not track the master's conclusions. Although SMC argues that the jury must have placed undue reliance on the master's conclusions, SMC's counsel told the jury in closing argument:

> Judge Saris will instruct you that you can give whatever weight you desire to this report. I would suggest to you that you give it the maximum weight. He especially considered this point. He was certainly very knowledgeable concerning everything that went on. He had an eleven-day trial before him and then he issued a detailed 68-page report in which he concluded that the SMC rodless cylinder did not infringe.

Despite this exhortation, the jury's conclusion as to infringement of the Stoll patent was contrary to the master's conclusion.

On the entirety of the circumstances, we do not believe that SMC's rights to a fair trial were affected by the lapse whereby the jury retained a copy of the master's report during its deliberations. Fed. R. Civ. P. 61 provides:

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> **Rule 61. Harmless Error** No error in either the admission or the exclusion of evidence and no

> error or defect in any ruling or order or in anything done or omitted by the court or by any of the parties is ground for granting a new trial or for setting aside a verdict or for vacating, modifying or otherwise disturbing a judgment or order, unless refusal to take such action appears to the court inconsistent with substantial justice. The court at every stage of the proceeding must disregard any error or defect in the proceeding which does not affect the substantial rights of the parties.

We discern no ground for a new trial flowing from the procedures with respect to the special master.

III

DAMAGES

SMC disputes the damages assessed by the jury. The assessment of damages is a question of fact, and is decided by the jury when trial is to a jury. Brooktree, 977 F.2d at 1578, 24 USPQ2d at 1417; Weinar v. Rollform, Inc., 744 F.2d 797, 808, 223 USPQ 369, 375 (Fed. Cir. 1984), cert. denied, 470 U.S. 1084 (1985). The jury's award must be upheld unless the amount is grossly excessive, clearly not supported by the evidence, or based on speculation or guesswork. Brooktree, 977 F.2d at 1580, 24 USPQ2d at 1419. To the extent that there were conflicts in the evidence with respect to damages, neither the trial court upon motion for judgment as a matter of law, nor the appellate court, may substitute its findings for those of the jury. Id. at 1581, 24 USPQ2d at 1419.

A. GENERAL DAMAGES

The general measure of the actual damages of a manufacturing patentee is the lost profits that the patentee would have earned but for the infringement. Aro Mfg. Co. v. Convertible Top Replacement Co., 377 U.S. 476, 507, 141 USPQ 681, 694 (1964); Del Mar Avionics, Inc. v. Quinton Instrument Co., 836 F.2d 1320, 1326, 5 USPQ2d 1255, 1260 (Fed. Cir. 1987). Festo was a manufacturer of the patented product, and presented evidence on the factors of (1) demand for the product, (2) the possible substitution of other products, (3) Festo's manufacturing and marketing capability to fulfill the demand, and (4) the amount of

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profit Festo would have made on the sales lost due to the infringement. See Panduit Corp. v. Stahlin Bros. Fibre Works, Inc., 575 F.2d 1152, 1156, 197 USPQ 726, 729-30 (6th Cir. 1978); Gyromat Corp. v. Champion Spark Plug Co., 735 F.2d 549, 552, 222 USPQ 4, 6 (Fed. Cir. 1984). As discussed in Rite-Hite Corp. v. Kelley Co., 56 F.3d 1538, 1545, 35 USPQ2d 1065, 1069 (Fed. Cir. 1995) (en banc), the Panduit factors are a useful (albeit not the only) mode of establishing damages in patent cases. In this case the evidence presented by Festo methodically tracked the Panduit factors.

Mr. Horst Saalbach, President of Festo, and Mr. Joachim Scholz, Vice President of Sales and Marketing of Festo, testified about the demand for magnetically coupled rodless cylinders because of their unique characteristics. Mr. Saalbach and Mr. Scholz testified that mechanical rodless cylinders, and band and

cable cylinders, were not acceptable substitutes in the special applications in which magnetically coupled rodless cylinders are used. They provided evidence that Festo and SMC were the only suppliers during the period of infringement. Mr. Saalbach testified that Festo could have accommodated about eight to ten times more business in the rodless cylinder market.

SMC disputed the issue of substitution of other products. The parties also presented conflicting evidence and argument as to the relative prices at which SMC and Festo sold comparable products, and the effect of any price differential on a customer's choice of a noninfringing substitute. SMC relies on BIC Leisure Prods. Inc. v. Windsurfing Int'l. Inc., 1 F.3d 1214, 27 USPQ2d 1671 (Fed. Cir. 1993); however, in BIC there were at least fourteen competing manufacturers, whereas in the case at bar Festo and SMC were the only manufacturers. When there is a two-supplier market occupied by the patentee and the infringer, it is reasonable for the jury to infer that the patentee would have made the infringer's sales, absent proof to the contrary. See State Indus., Inc. v. Mor-Flo Indus., Inc., 883 F.2d 1573, 1578, 12 USPQ2d 1026, 1029 (Fed. Cir. 1989), cert. denied, 493 U.S. 1022 (1990). On

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the totality of the evidence, we conclude that a reasonable jury could have found that Festo's damages should be measured by its lost profits due to SMC's infringement.

Mr. Steven Skalak, a CPA from Coopers & Lybrand, provided a detailed analysis of Festo's lost profits, showing the calculations he performed to determine what Festo's profits

would have been had there been no infringement by SMC. SMC disputes the measurement of such profits, arguing that Festo had a net loss for its early years, and Festo responding that these magnetic cylinders were profitable items. Festo states that SMC's accounting witness, Mr. Squire, did not provide an alternative lost profit analysis, or identify any items that should have been included in or excluded from the calculation of Festo's fixed costs. SMC does not disagree. Although SMC now appears to challenge all of Festo's evidence, it is apparent that there was substantial evidence at trial that could support the jury verdict.

B. ACCESSORY SALES

SMC states that included in the damages award were lost sales of "accessory" items sold with the magnetically coupled rodless cylinders. In Rite-Hite, 56 F.3d at 1550, 35 USPQ2d at 1073 the court stated that "[we do not extend] liability to include items that have essentially no functional relationship to the patented invention and that may have been sold with an infringing device only as a matter of convenience or business advantage."

There was undisputed testimony that the items here at issue could be used only with the patented magnetic cylinders, and had no independent market or use. Mr. Saalbach testified that certain "accessories" are necessary to make the magnetically coupled rodless cylinder operational. Mr. Scholz testified that the accessories that Festo sells "you must have to get this device to do work." Mr. Skalak explained the study he performed to verify Festo's sales of these items with the patented rodless cylinders. Such items, having no market, use, or value separate from the

patented cylinders, were properly included in the damages award.

The verdict of damages was supported by substantial evidence and in accordance with law, and must be sustained.

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IV

CONCLUSION

The district court's judgment is affirmed.

Costs are taxed in favor of Festo.

AFFIRMED

UNITED STATES DISTRICT COURT
DISTRICT OF MASSACHUSETTS

FESTO CORPORATION,	:	
	:	
Plaintiff,	:	
	:	
v.	:	Civil Action No.
	:	88-1814-PBS
SHOKETSU KINZOKU KOGYO KABUSHIKI CO., LTD., a/k/a SMC CORPORATION, and SMC PNEUMATICS, INC.,	:	
	:	
Defendants.	:	

JUDGMENT

This Court, sitting with a jury, tried the issues with respect to the validity of two United States patents (the "Stoll" and "Carroll" patents) owned by Plaintiff Festo Corporation ("Festo") and the infringement of the Stoll patent by Defendants SMC Corporation and SMC Pneumatics, Inc. (collectively "SMC"), and this Court considered the evidence introduced by the parties and the arguments presented on their behalf. In addition, on July 11, 1994, this Court granted summary judgment on infringement of the Carroll patent with respect to the SMC basic type magnetically coupled rodless cylinder, excluding the 6mm bore size.

Pursuant to the jury verdict rendered on July 14, 1994 regarding validity of both the Stoll and Carroll patents and infringement of the Stoll patent, the summary judgment motion granted by this Court with respect to infringement of the Carroll patent and the jury verdict rendered on July 21, 1994 setting forth the damages based on infringement of these patents, this Court directs entry of judgment as set forth below. It is hereby

ORDERED AND ADJUDGED, that

1. This court has jurisdiction over the subject matter of this action and over the parties.

2. Plaintiff Festo is the owner by assignment of Stoll United States Patent No. 4,354,125 and Carroll Reexamination Certificate B1 3,779,401 ("the patents in suit") and of all rights of recovery for infringement thereof.

3. Defendant SMC has manufactured and sold in the United States during the term of the patents in suit, without authority from Festo CY1 and NCY1 series magnetically coupled rodless cylinders, excluding the 6mm bore size.

4. With respect to Stoll U.S. Patent No. 4,354,125, entitled "Magnetically Coupled Arrangement For A Driving And A Driven Member", issued October 12, 1982:

a) SMC has failed to carry its burden of proving Claims 1-3 invalid.

b) SMC has failed to carry its burden of proving that the Stoll patent is invalid for not disclosing the beat made.

c) SMC has infringed Claim 1 of the Stoll patent by making, using and selling CY1 and NCY1 series magnetically coupled rodless cylinders, excluding the 6mm bore size.

5. With respect to the Carroll Reexamination Certificate No. Bl 3,779,401, entitled, "Pneumatic Device For Moving Articles"; issued October 25, 1988:

a) SMC has failed to carry its burden of proving Claim 9 invalid.

b) In accordance with this Court's July 11, 1994 order, SMC has infringed claims 9, 5 and 6 of the reexamined Carroll patent by making, using and selling CY1 and NCYI series, basic type, magnetically coupled rodless cylinders, excluding the 6mm bore size.

c) Festo's claim of infringement of the reexamined Carroll patent with respect to SMC's CY1 and NCY1 series, slider type, magnetically coupled rodless cylinders is dismissed with prejudice in accordance with this Court's July 11, 1994 order.

6. Effective forty-five (45) days from entry of judgment, in accordance with 35 U.S.C. § 283, SMC Pneumatics, Inc. and SMC Corporation, its officers, agents, servants, employees, and

attorneys and those persons in active concert or participation with them who receive actual notice of this judgment by personal service or otherwise are enjoined and restrained:

(i) from making, using or selling in the United States any magnetically coupled rodless cylinder which infringes Claim 1 of Plaintiff Festo Corporation's Stoll U.S. Patent No. 4,354,125, including, without limitation, by manufacture, use or sale of CY1 and NCY1 series magnetically coupled rodless cylinders, excluding the 6mm bore size;

(ii) from doing any act in the United States which actively induces infringement of Claim 1 of Plaintiff Festo Corporation's Stoll U.S. Patent No. 4,354,125.

(iii) from supplying in or from the United States all or a substantial portion of the components of the Stoll patented invention, where such components are combined in whole or in part, in such manner as to actively induce the combination of such components outside of the United States in a manner that would infringe Claim 1 of Plaintiff Festo Corporation's Stoll U.S. Patent No. 4,354,125, if such combination occurred within the United States; and

(iv) from supplying in or from the United States any component of the Stoll patented invention that is especially made or especially adapted for use in

> the invention and not a staple article or commodity of commerce suitable for substantial noninfringing use, where such component is uncombined in whole or in part, knowing that such component is so made or adapted and intending that such component will be combined outside of the United States in a manner that would infringe Claim 1 of Plaintiff Festo Corporation's Stoll U.S. Patent No. 4,354,125, if such combination occurred within the United States.

7. Counts II through VI of the Festo complaint regarding predatory pricing are hereby dismissed with prejudice in accordance with the Decision On Summary Judgment by Judge Mazzone on January 27, 1992.

8. SMC's counterclaim regarding infringement of Miyamoto U.S. Patent No. 4,488,477 entitled "Rodless Cylinder" is hereby dismissed with prejudice.

9. In accordance with 35 U.S.C. § 284, the total amount of damages adequate to compensate Festo for SMC's infringement through December 31, 1993 is $4,322,456 plus prejudgment interest of $416,727 for a total of $4,739,183. This Court shall determine an amount of damages on the same lost profits basis as awarded by the jury to Festo for the period between January 1, 1994 and the date on which a determination on appeal to the Court of Appeals for the Federal Circuit is made or the time for making an appeal to the Court of Appeals for the Federal Circuit has been exhausted. Accordingly, SMC is to provide this Court and Festo, within 30 days after a

determination of appeal, sufficient information to carry out a separate accounting for the period identified above which shall be submitted to the Court for making the determination of additional damages. Plaintiff Festo is also entitled to interest on these additional damages in an amount to be determined by this Court.

10. Each party is to bear its own costs and attorneys' fees.

Judgment is hereby entered in favor of Plaintiff Festo Corporation against Defendants SMC Corporation and SMC Pneumatics, Inc. and each of them on the issues of liability and damages.

SO ORDERED.

/S/ PATTI B. SARIS
PATTI B. SARIS
United States District Judge

Dated: October 27, 1994

UNITED STATES DISTRICT COURT
DISTRICT OF MASSACHUSETTS

FESTO CORPORATION, Plaintiff, v. SHOKETSU KINZOKU KOGYO KABUSHIKI CO., LTD., a/k/a SMC CORPORATION and SMC PNEUMATICS, INC., Defendants.	CIVIL ACTION NO. 88-1814-PBS

SPECIAL VERDICT FORM

Saris, U.S.D.J.

The Stoll Patent

1. Has Festo proven by a preponderance of the evidence as to claim 1 of the Stoll Patent that the SMC non-magnetizable sleeve performs substantially the same function in substantially the same way to obtain substantially the same result as does a magnetizable sleeve?

✓ yes ____ no

2. Has Festo proven by a preponderance of the evidence as to claim 1 of the Stoll Patent that one seal on the SMC piston performs substantially the same function in substantially the same way to obtain substantially the same result as do two seals on the piston?

✓ yes ____ no

3. Has SMC established by clear and convincing evidence that the Stoll Patent is invalid because it would have been obvious at the time the invention was made to persons having ordinary skill in the pertinent art with respect to:

Independent claim 1

✓ yes ____ no

[If you answer no, do not answer the remaining claims in Question 3. If you answer yes, you need to answer with respect to the remaining claims].

Claim 2

✓ yes ____ no

Claim 3

✓ yes ____ no

4. Has SMC established by clear and convincing evidence that the best mode for practicing the Stoll invention

was axial rather than radial polarization and that the inventor was aware of this at the time the Stoll application was filed?

✓ yes ____ no

The Re-examined Carroll Patent

5. Has SMC established by clear and convincing evidence that the Reexamined Carroll Patent is invalid because it would have been obvious at the time the invention was made to persons having ordinary skill in the pertinent art with respect to:

Independent Claim 9

✓ yes ____ no

I certify that the jury unanimously concurs in the above verdict.

/S/ GERARD E. MALORY
FOREPERSON

Date: 14/7/94

UNITED STATES DISTRICT COURT
DISTRICT OF MASSACHUSETTS

FESTO CORPORATION, Plaintiff, v. SHOKETSU KINZOKU KOGYO KABUSHIKI CO., LTD., a/k/a SMC CORPORATION and SMC PNEUMATICS, INC., Defendants.	CIVIL ACTION NO. 88-1814-PBS

ORDER RE: PRETRIAL MOTIONS

July 11, 1994

Saris, U.S.D.J.

On February 3, 1994, this Court heard oral argument on the following motions: The motions by SMC Corporation and SMC Pneumatics, Inc. (collectively "SMC") for summary judgment on non-infringement of the Stoll Patent, non-infringement of the

Carroll Patent, and invalidity of the Stoll Patent[1]; and the motions by Festo Corporation ("Festo") for judgment and for a directed verdict on infringement of the Carroll patent, validity of the Carroll patent, infringement of the Stoll patent, and validity of the Stoll patent. As discussed in court that day, and as explained in a Procedural Order issued on February 18, 1994, all motions for summary judgment were denied, with the exception of the motions concerning infringement of the Reexamined Carroll patent. After additional briefing on that issue, this Court now orders that Festo's and SMC's motions are each allowed and denied in part. This opinion also addresses the use of the Master's Report ("Report") at trial, and assumes familiarity with that report. The Court also explains the reasons for denial of the motions concerning infringement of the Stoll Patent under the doctrine of equivalents, which SMC urged the court to reconsider.

1. Master's Report

On May 21, 1992, pursuant to Fed. R. Civ. P. 53(e)(3), Judge Mazzone referred this case to Special Master Herbert F. Schwartz, Esq. for the purpose of considering all claims presented by the parties. In the Order of Reference, Judge Mazzone explained that the appointment of a special master was warranted because "[n]ot only are the claims complex, but the

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[1] Prior to the Master's Hearing, SMC filed motions for summary judgment on non-infringement of the Stoll Patent, non-infringement of the Stoll and Carroll Patents by the one seal SMC rodless cylinder, and invalidity of the Stoll Patent. Following the Master's Hearing, SMC filed a motion for summary judgment and a directed verdict on non-infringement of the Stoll Patent.

history of this litigation, the voluminous record, and the contentions of the parties promise that this case will require an inordinate amount of judicial time and resources at a time when this Court has four pending vacancies and my own schedule is severely taxed."

SMC filed a limited objection to the reference, primarily directed to the contention that the Master's authority be no broader than that provided under Fed. R. Civ. P. 53(e). Hearings on the issues of infringement, invalidity and enforceability of the reexamined Carroll and Stoll patents were held before the special master on September 14-21 and hearings on damages were held on October 19-22 and on November 9, 1992. The Master issued his report on April 27, 1993. Both sides filed objections in a timely fashion.

Fed. R. Civ. P. 53 (b) provides that a reference to a master shall be "the exception and not the rule." "In actions to be tried by a jury, a reference shall be made only when the issues are complicated. . . ." Id. In an action to be tried by a jury, the master's "findings upon the issues submitted to the master are admissible as evidence of the matters found and may be read to the jury, subject to the ruling of the court upon any objections in point of law which may be made to the report." Fed. R. Civ. P. 5 3 (e) (3) .

"[T]he court has the power to appoint masters without the consent of the parties." Constant v. Advanced Micro-Devices, Inc., 848 F.2d 1560, 1566 (Fed. Cir.) ("Constant"), cert. denied, 488 U.S. 892 (1988). "Reference of issues to a master, even compulsory reference, does not violate the 7th Amendment right to trial by a jury to which a master's findings may be read under

Rule 53(e)(3)." Id. (citing Crateo, Inc. v. Intermark, Inc., 536 F.2d 862, 868 (9th Cir.), cert. denied, 429 U.S. 896 (1976)). See also Ex parte Peterson, 253 U.S. 300, 312 (1920).

"Where complicated issues of patent law are involved, the appointment of an experienced patent attorney is quite appropriate." Constant, 848 F.2d at 1567. "Masters can properly aid the court in evaluating issues of patent validity and infringement in the context of motions for summary judgment, and have often done so." Id. at 1566. Cf. International Nickel Co. v. Ford Motor Co., 166 F. Supp. 551, 553 (S.D.N.Y. 1958) (reference to master in highly technical patent case). "Masters have been employed by courts (under Fed. R. Civ. P. 53 (e)(3)) to explain technology to the jury or make findings on specific issues which are then read to the jury." Structural Rubber Products Co. v. Park Rubber Co., 749 F.2d 707, 720 (Fed. Cir. 1984).

In jury cases, some courts have held that the master's findings constitute prima facie evidence to be submitted to the jury for its consideration. Coyner v. United States, 103 F.2d 629, 634-35 (7th Cir. 1939). See generally Irving R. Kaufman, Masters in the Federal Courts: Rule 53, 58 Columbia L. Rev. 452, 460 (1958).

SMC has filed a motion in limine objecting to submission of the master's fact findings to the jury. This court has determined that the master's report will be submitted to the jury because of the complexity of the issues and technology involving magnetically coupled rodless cylinders and two different patents. Due to the length of the report, the number of issues, and the complexity of the technology, the Court will allow the jury to

read the report by themselves rather than have the report read orally to them. However, in order to ensure that the master's report not receive undue weight, it will not remain with the jurors while deliberating. The attorneys have conferred and agreed to sanitize the report to delete contentions of the parties, and issues which the court has ruled on as a matter of law. All disputes were resolved by the court. Finally, the Court will not instruct the jury that the master's report is "prima facie" evidence, as that language is missing from Rule 53. Rather, the Court will instruct the jury that it may determine what weight, if any, to give the master's findings.

2. Infringement Under Doctrine of Equivalents of Stoll Patent Concerning Magnetizable Sleeve Limitation

Based on the analysis contained in the report concerning the magnetizable sleeve limitation in claim 1 of the Stoll patent, the master recommended that SMC's motion for summary judgment should be granted with respect to SMC's infringement of claims 1-3 and 5-7 of Stoll. SMC has moved that this Court adopt the master's recommendation with respect to non-infringement of the Stoll patent. Festo has moved for summary judgment and/or a directed verdict of infringement of the Stoll patent.

"In order to determine a question of patent infringement, a district court must (1) determine as a matter of law the scope and meaning of the claims at issue and (2) determine as a factual matter whether the properly construed claims encompass or 'read on' the accused device." Vaupel Textilmaschinen v. Meccanica Euro Italia, 944 F.2d 870, 879 (Fed. Cir. 1991) ("Vaupel").

See also ZMI Co. v. Cardiac Resuscitator Corp., 844 F.2d 1576, 1578 (Fed. Cir. 1988). "To ascertain the meaning of claims, [the court considers] three sources: the claims, the specification, and the prosecution history." Unique Concepts, Inc. v. Brown, 939 F.2d 1558, 1561 (Fed. Cir. 1991) ("Unique"). To constitute an infringement, the accused device must contain each and every limitation of the claim or its substantial equivalent. Vaupel, 944 F.2d at 879. "An equivalent must be found for every limitation of the claim somewhere in an accused device, but not necessarily in a corresponding component, although that is generally the case." Corning Glass Works v. Sumitomo Elec. U.S.A., Inc., 868 F.2d 1251, 1259 (Fed. Cir. 1989) (adding negative dopant to the cladding is equivalent to adding positive dopant to the core in the context of the claimed invention).

The court agrees with the conclusion of the Master that "when properly construed the Stoll claims cannot be read to cover the non-magnetizable sleeves used in the SMC rodless cylinders." Report, pp. 47-50, 68. Thus, there is no literal infringement as a matter of law. Festo does not dispute this ruling.

However, the court disagrees that summary judgment can be granted with respect to the claim of infringement by equivalents. A finding of infringement by equivalents requires a determination whether the accused device performs substantially the same function in substantially the same way to achieve substantially the same result. Unique, 939 F.2d at 1564. See generally Graver Tank & Mfg. Co., Inc. v. Linde Air Prods. Co., 339 U.S. 605, 608 (1950). "This equitable doctrine evolved from a balancing of competing policies, each of which supports the Constitutional purpose of promoting the 'useful arts.'"

London v. Carson Pirie Scott & Co., 946 F.2d 1534, 1538 (Fed. Cir. 1991) ("London") (,citing U.S. Const. art. I, § 8, cl. 8).

> On the one hand claims must be 'particular' and 'distinct' as required by 35 U.S.C. § 112, so that the public has fair notice of what the patentee and the Patent Trademark Office have agreed constitute the metes and bounds of the claimed invention. . . . On the other hand, the patentee should not be deprived of the benefits of his patent by competitors who appropriate --he essence of an invention while barely avoiding -- he literal language of the claims . . . . Thus, where an infringer, instead of inventing around a patent by making a substantial change, merely makes an insubstantial change, essentially misappropriating or even 'stealing' the patented invention, infringement may lie under the doctrine of equivalents. Application of the doctrine of equivalents is the exception, however, not the rule. . . .

Id. (citations omitted).

"The essence of prosecution history estoppel is that a patentee should not be able to obtain, through the doctrine of equivalents, coverage of subject matter that was relinquished during prosecution to procure issuance of the patent." Hoganas AB v. Dresser Indus., Inc., 9 F.3d 948, 951-52 (Fed. Cir. 1993) ("Hoganas") (emphasis added). "The legal standard for determining what subject matter was relinquished is an objective one, measured from the vantage point of what a competitor was

reasonably entitled to conclude, from the prosecution history, that the applicant gave up to procure issuance of the patent." Id. at 952.

"The doctrine of prosecution history estoppel bars 'a patentee from enforcing its claims against otherwise legally equivalent structures if those structures were excluded by claim limitations added in order to avoid prior art.'" Vaupel, 944 F.2d at 882 (quoting Mannesmann Demag Corp. v. Engineered Metal Prods. Co., Inc., 793 F.2d 1279, 1284 (Fed. Cir. 1986)). "In determining whether prosecution history estoppel applies because of a change in claim language during prosecution, the court must consider not only what was changed, but the reason for such change." Id. (emphasis in original) (because the record does not indicate that the limitation was added to avoid prior art, there was no estoppel to finding infringement by equivalents). "The scope of estoppel must be determined in light of the prior art that occasioned the change, as well as representations made to the patent examiner as to the reason for change." Sun Studs, Inc. v. ATA Equipment Leasing, Inc., 872 F.2d 978, 987 (Fed. Cir. 1989) (no estoppel where the discussion of patentability before the PTO was unrelated to the description of the geometric shape) ("Sun Studs"), overruled on other grounds by A.C. Aukerman Co. v. R.L. Chaides Const. Co., 960 F.d 1020, 1038-39 (Fed. Cir. 1992). "[E]stoppel is not automatic whenever a claim is cancelled . . . . " Id. at 987. Prosecution history estoppel is ordinarily a question of law.

SMC vigorously argues that this Court should adopt the master's recommendation that Festo is estopped under the doctrine of prosecution history estoppel from claiming that it is entitled to a range of equivalents which would erase "meaningful

structural and functional limitations of the claim on which the public is entitled to rely in avoiding infringement." Hoganas, 9 F.3d at 954 (quoting Perkin-Elmer Corp. v. Westinghouse Elec. Corp., 822 F.2d 1528, 1532 (Fed. Cir. 1987)). In Hoganas, the court found prosecution history estoppel where: the examiner during prosecution issued an office action rejecting claims for obviousness; the claimant distinguished the claims so as to relinquish coverage of capillary-sized fibers; and the examiner subsequently allowed the claims based on this distinction. The court held: "In our view, a reasonable competitor could have concluded, from a reading of the prosecution history, that the examiner relied on this distinction in allowing the claims, and thus, that Hoganas had given up coverage of the subject matter incorporating this distinction." Hoganas, 9 F.3d at 953.

Here, in the First Office Action, the examiner rejected all claims under 35 U.S.C. § 112 par. 1, which provides: "The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same, and shall set forth the best mode contemplated by the inventor of carrying out his invention." The examiner commented: "Exact method of operation unclear. Is device a true motor or magnetic clutch." Claims 4-12 were also rejected under 35 U.S.C. § 112 for being improperly multiply dependent. Report 37. They were not rejected for obviousness under 35 U.S.C. § 103.

The initial claim 1 did not limit the sleeve of the driven member to being constructed of a magnetizable material. Claim 8, which was dependent from claim 1, had such a limitation.

Report 31. In response to this first office action, Stoll cancelled independent claim 1 and substituted a completely new independent claim which required that the driven member have a sleeve constructed of a magnetizable material. Report 32.

Although the examiner identified certain "cited references believed pertinent," there is nothing in the record or the report to indicate that the limitation of a magnetizable sleeve was necessary to distinguish the claimed invention over prior art. Further, there is nothing in the record or the report to suggest that the limitation of a sleeve of magnetizable material was necessary to meet the requirements of specification under 35 U.S.C. § 112. Indeed, the reason why the newly substituted independent claim has the limitation that the sleeve be made of magnetizable material is a mystery, as nothing seems to turn on its composition for purpose of procuring the patent. At the very least, it is a question of fact. Sun Stud, 872 F.2d at 987. This Court is not persuaded by SMC's reliance on Hoganas Int'l., Inc. v. Jessop Steel Co., 8 F.3d 1573, 1577-78 (Fed. Cir. 1993) ("Haynes"), in which two claims reciting a relatively broad range of chromium content were abandoned, and a third claim with a more specific chromium content was retained. In Haynes, unlike the present case, it was clear from the prosecution history "that chromium content was the principal distinction between the claimed subject matter and the prior art, and this was the primary area of dialogue between Cabot and the PTO." Id. at 1578. Accordingly, in light of the circumstances of the present record, this court declines to adopt the recommendation of the master that the claim of infringement by equivalents is barred under the doctrine of prosecution history estoppel.

In addition, with respect to equivalency Festo has presented expert testimony of Dr. Robert Wolf and of Dr. Stoll to support its claim of infringement under the doctrine of equivalents. Festo argues that SMC has produced no evidence to dispute the testimony of Wolf and Stoll that magnetizable and non-magnetizable sleeves operate in substantially the same manner. However, the patent itself states that if the driven assembly is provided with a sleeve made of magnetizable material, "magnetic leakage fields in the vicinity of the driven assembly can be kept to a minimum. In this way, undesirable breaking forces, which would otherwise be generated while piston and driven assembly pass magnetizable machine components, are avoided." Record 48. This language in the specification, together with the prosecution history, creates a disputed issue of fact appropriate for resolution by a jury under the function/way/result test. Unique, 939 F.2d at 1564 (even where there was no literal infringement as a result of plain language of claim and prosecution history, the court examined expert testimony in evaluating whether there was infringement by equivalents). Accordingly, both motions are denied.

3. Literal Infringement of the Reexamined Carroll Patent

Festo has moved for summary judgment on its claim of infringement with respect to the reexamined Carroll patent. Claim 9 of the reexamined Carroll patent requires "a pair of cushion members formed of resilient material, the cushion members being situated near opposite axial ends of the central mounting member to help prevent damage to the piston when the piston contacts an axial end of the cylinder . . . ."

A. 6, 10 and 15 mm slider pistons

The 6, 10 and 15 mm slider pistons have no cushions and Festo does not contend that they infringe.

B. 25, 32, and 40 mm slider pistons

SMC contends that the cushions in the 25, 32 and 40 mm slider pistons cannot prevent damage by making contact with the end plates, because a bolt protrudes from the piston such that the end plate will make contact with the bolt rather than the cushion. (Testimony of Dr. Blanco, Tr. 1800). Festo has neither put forth any evidence to dispute the contention nor pressed the issue in its briefs. Accordingly, SMC's motion for summary judgment on the claim of literal infringement will be granted.

C. Basic Pistons

As to the basic pistons, SMC contends that "in normal operation," their cushions do not "prevent damage to the piston" since they do not make contact with the end plate. This is because "in normal operation" the piston is stopped by stopping the load rather than stopping the load by stopping the piston. The court agrees with the conclusion of the master that the language of claim 9 of the reexamined Carroll patent does not distinguish between situations where contact with the axial end of the cylinder is the normal result of the completion of a stroke and where it comes into play only in the case of decoupling. Report 20-22. Accordingly, the court grant's Festo's motion for summary judgment with respect to the claim of literal infringement of claims 5, 6 and 9 of the reexamined Carroll patent on the basic pistons with two seals and cushions.

4. Infringement Under Doctrine of Equivalents of Reexamined Carroll and Stoll Patents Concerning Seals

SMC has moved for summary judgment on noninfringement of the reexamined Carroll patent and the Stoll patent based on its use of one seal rodless cylinders, instead of two. Festo has also moved for summary judgment on their claim of infringement by equivalents. Since the Carroll and Stoll patents specifically recite two seals, there is no dispute that the one seal basic and the one seal slider SMC rodless cylinders do not literally infringe.

Claim 1 of the Stoll patent states inter alia:

> Said piston further including plural guide ring means encircling said piston body and sliding engaging said internal wall and first sealing rings located axially outside said guide rings for wiping said internal wall as said piston moves along said tube to thereby cause any impurities that may be present in said tube to be pushed along said tube so that said first annular magnets will be free of interference from said impurities.

Claim 9 of the reexamined Carroll patent specifically defines "a pair of resilient sealing rings situated near opposite axial ends of the central mounting member and engaging the cylinder to provide a fluid-tight seal therewith."

SMC argues that use of only one seal allows dirt to enter the piston chamber and is therefore not equivalent to two seals.

The master rejected the argument as "flawed" as applied to the reexamined Carroll patent because it is based on the meaning and function of the sealing rings as described in the Stoll patent, not in the Carroll patent. Report 24. Rather, the Master found that under the Carroll patent: "The seals create a fluid-tight seal against the pressure medium, enabling the piston to be pushed by its force. This results in the piston being efficiently moved by the pressure medium without "blow-by" or air getting around the seals." Report 24. Festo has presented undisputed evidence that for this purpose the one seal in the SMC device performs substantially the same function and achieves substantially the same result in substantially the same way as two seals.

The only evidence which SMC has produced to dispute the claim of infringement by equivalents is statements made by Festo in the context of prosecution of the Stoll patent. In particular, there is a statement by Dr. Stoll that two seals are necessary under the Stoll patent because without two sealing rings, dirt attracted by the magnet will enter the side without the sealing ring. This evidence concerning dirt and impurities does not bear on the meaning and function of the sealing rings as described in the reexamined Carroll patent.

Accordingly, the Court allows Festo's motion for summary judgment that the one seal SMC basic cylinders infringe claims 5, 6 and 9 of the reexamined Carroll patent under the doctrine of equivalents. However, the Court denies Festo's motion for summary judgment that the one seal SMC basic cylinders infringe claim 1 of the Stoll patent under the doctrine of equivalents. Considering the above statement by Dr. Stoll on the importance of two seals, as well as conflicting testimony from Dr. Wolf and Dr. Stoll at the master's hearing, there is a genuine

issue of material fact as to whether one seal functions substantially the same way as two seals in eliminating interference from impurities.

ORDER

For the foregoing reasons, the Court hereby **ORDERS** as follows:

1. SMC is granted summary judgment on non-infringement of the reexamined Carroll patent by the 6, 10 and 15 mm cushionless pistons;

2. SMC is granted summary judgment on non-infringement of the reexamined Carroll patent by the 25, 32, and 40 mm slider pistons with bolts;

3. Festo is granted summary judgment on the infringement of the reexamined Carroll patent by the SMC basic pistons with two seals and two cushions;

4. Festo is granted summary judgment on the infringement of the reexamined Carroll patent by the SMC one-seal rodless cylinders.

5. All other motions for summary judgment are **DENIED** for the reasons stated above and in Court on February 3, 1994.

/S/ PATTI B. SARIS
PATTI B. SARIS
United States District Judge

United States Court of Appeals for the Federal Circuit

95 - 1066

FESTO CORPORATION,

Plaintiff-Appellee,

v.

SHOKETSU KINZOKU KOGYO KABUSHIKI CO., LTD.,
a/k/a SMC CORPORATION, and SMC PNEUMATICS, INC.,

Defendants-Appellants.

ORDER

United States Court of Appeals for the Federal Circuit

ORDER

A combined petition for rehearing and suggestion for rehearing in banc having been filed by the APPELLANT, and a response thereto having been invited by the court and filed by the APPELLEE, and the petition for rehearing having been referred to the panel that heard the appeal, and thereafter the suggestion for rehearing in banc and response having been referred to the circuit judges who are in regular active service,

UPON CONSIDERATION THEREOF, it is

ORDERED that the petition for rehearing be, and the same hereby is, DENIED and it is further

ORDERED that the suggestion for rehearing in banc be, and the same hereby is, DECLINED.

The mandate of the court will issue on March 13, 1996.

FOR THE COURT,
FRANCIS X. GINDHART, CLERK

Dated: March 6, 1996

By /S/ DIANE M. FRYE
Diane M. Frye
Chief Deputy Clerk

cc: ARTHUR I. NEUSTADT
CHARLES R. HOFFMANN

FESTO CORP V SMC CORP, 95-1066
(DCT - 88-CV-1814)

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Note: Pursuant to Fed. Cir. R. 47.6, this order is not citable as precedent. It is a public record.

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THE CONSTITUTIONAL PROVISIONS AND STATUTES INVOLVED IN THE CASE

I. The Doctrine of Equivalents Issue

Article 1, section 8, clause 8 of the Constitution provides

> To promote the Progress of Science and useful Arts, by securing for limited Times to Authors and Inventors the exclusive Right to their Respective Writings and Discoveries

35 U.S.C. §112, ¶2 provides

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

35 U.S.C. §251, ¶4 provides

> No reissued patent shall be granted enlarging the scope of the claims of the original patent unless applied for within two years from the grant of the original patent.

II. The Jury Trial Issue

The Seventh Amendment to the Constitution provides

> In Suits at common law, where the value in controversy shall exceed twenty dollars, the right of trial by jury shall be preserved, and no fact tried by a jury, shall be otherwise reexamined in any Court of the United States, than according to the rules of the common law.